Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (previously presented): A data transmission system, comprising:

a base station and at least two mobile stations in a piconetwork for interchanging data bursts successively by radio using a time slot method;

a transmitter of said base station being configured to transmit first data bursts to said mobile stations, at least some of the first data bursts containing at least two data blocks intended for different ones of said mobile stations, said transmitter being configured to produce identification information for said piconetwork only at a start of a transmission of each of the first data bursts;

each of said mobile stations having a transmitter configured to transmit a group of second data bursts containing a data block intended for said base station, said transmitter being configured to produce identification information for said piconetwork at a start of a transmission of the second data bursts;

said first data bursts and groups of the second data bursts being transmitted alternately; and

a device for producing a guard time interval between the data bursts.

Claim 2 (original): The data transmission system according to claim 1, wherein said base station and each of said mobile stations have a local oscillator.

Claim 3 (previously presented): The data transmission system according to claim 2, wherein each of said local oscillators is connected to a respective phase locked loop.

Claim 4 (canceled)

Claim 5 (previously presented): The data transmission according to claim 1, wherein at least one of:

the first data burst and a subsequent one of the groups of the second data bursts are at different transmission frequencies, and

one of the groups of the second data bursts and a subsequent one of the first data bursts are at different transmission frequencies.

Claim 6 (original): The data transmission system according to claim 5, wherein one of the transmission frequency of the first data burst and the group of the second data bursts is constant during a transmission.

Claim 7 (original): The data transmission system according to claim 1, wherein the guard time interval between one of the first data bursts and a subsequent one of the second data bursts is equal to the guard time interval between the one of the second data bursts and the subsequent one of the first data bursts.

Claim 8 (original): The data transmission system according to claim 1, wherein the guard time intervals between successive second data bursts have equal lengths.

Claim 9 (original): The data transmission system according to claim 1, wherein:

the first data bursts contain at least two data blocks, with one data block being provided for each of said mobile stations, and

a second data burst from each of said mobile stations is in each case provided in the group of the second data bursts.

Claim 10 (original): The data transmission system according to claim 1, wherein said data transmission system can be used in a system with real-time requirements selected from the group consisting of a cordless communication system, and a computer-controlled entertainment system, a computer-controlled game system.

Claim 11 (previously presented): A frame structure for radio transmission of data bursts between a base station and at least two mobile stations in a piconetwork, comprising:

first data bursts transmitted from the base station to the mobile stations, with at least some of said first data burst containing at least two data blocks, each of said data blocks being intended for different mobile stations, and further containing identification information for the piconetwork only at a start of each of said first data bursts;

second data bursts transmitted from a respective one of the mobile stations to the base station, each of said second data bursts containing a data block intended for the base station and containing identification information for the piconetwork at a start of each of the second data bursts;

said first data bursts and said groups of second data bursts being transmitted alternately; and

guard time intervals between successive data bursts.

Claim 12 (original): The frame structure according to claim 11, wherein the base station and each of the mobile stations each have a local oscillator.

Claim 13 (previously presented): The frame structure according to claim 12, wherein a respective phase locked loop is connected to each of the local oscillators.

Claim 14 (canceled)

Claim 15 (previously presented): The frame structure according to claim 11, wherein at least one of:

said first data bursts and a subsequent group of said second data bursts are at different transmission frequencies, and

a group of said second data bursts and subsequent first data bursts are at different transmission frequencies.

Claim 16 (original): The frame structure according to claim 15, wherein the transmission frequency of at least one of said first data bursts and said group of second data bursts is constant during the transmission.

Claim 17 (original): The frame structure according to claim 11, wherein a guard time interval between said first data bursts and subsequent second data bursts equals a guard time interval between said second data bursts and subsequent first data bursts.

Claim 18 (original): The frame structure according to claim 11, wherein guard time intervals between said successive second data bursts have equal lengths.

Claim 19 (original): The frame structure according to claim 11, wherein:

said first data bursts contain two or more data blocks, with one of said data blocks being provided for each of said mobile stations; and

said second data bursts include a data burst from each of said mobile stations.

Claim 20 (original): The frame structure according to claim 11, used for data transmission in a system having a real-time requirement selected from the group consisting of a cordless communication system, a computer-controlled entertainment system, and a computer-controlled game system.

Claim 21 (previously presented): A method for radio transmission of data in a piconetwork between a base station and at least two mobile stations, which comprises the steps:

(a) transmitting a first data burst from the base station to the mobile stations, the first data burst containing at least two data blocks each intended for a different one of the mobile stations, including transmitting identification information for the piconetwork only at a start of a transmission of the first data burst;

(b) providing a guard type interval;

(c) transmitting the second data bursts from one of the mobile stations to the base station, each of the second data bursts containing a data block intended for the base station, each of the mobile stations transmitting identification information for the piconetwork at a start of a transmission of the second data bursts; and

(d) transmitting the first data bursts and groups of second data bursts alternately.

Claim 22 (original): The method according to claim 21, which further comprises transmitting and receiving data bursts with the base station and each of the mobile stations by using respective local oscillators.

Claim 23 (previously presented): The method according to claim 22, which further comprises connecting a phase locked loop to each of the local oscillators.

Claim 24 (canceled)

Claim 25 (original): The method according to claim 23, wherein at least one of:

the first data burst and a subsequent group of the second data bursts are at different transmission frequencies; and

a group of the second data bursts and a subsequent first data burst are at different transmission frequencies.

Claim 26 (original): The method according to claim 25, which further comprises keeping the transmission frequency constant during one of a transmission of the first data burst and a transmission of the group of the second data bursts.

Claim 27 (original): The method according to claim 21, wherein:

the guard time interval is between the first data burst and a subsequent one of the second data bursts, and

the guard time interval has an equivalent length as between one of the second data bursts and a subsequent first data burst.

Claim 28 (original): The method according to claim 21, which further comprises providing guard time intervals of an equivalent length between successive second data bursts.

Claim 29 (original): The method according to claim 21, which further comprises:

in the first data bursts, providing at least two data blocks, one of the data blocks being provided for each of the mobile stations; and

providing a second data burst from each of the mobile stations in each of the group of second data bursts.

Claim 30 (original): The method according to claim 21, which further comprises using the method in a system with real-time requirements selected from the group consisting of a cordless communication systems, a computer-controlled entertainment system, and a computer-controlled games system.

Claim 31 (previously presented): A data transmission system, comprising:

a base station and at least two mobile stations in a network for interchanging data bursts by radio using a time slot method;

a transmitter of said base station being configured to transmit a first data burst to said mobile stations, said

first data burst containing at least two data blocks intended for different ones of said mobile stations, said transmitter being configured to produce identification information for said network only at a start of a transmission of said first data burst;

each of said mobile stations having a transmitter configured to transmit a group of second data bursts containing a data block intended for said base station, said transmitter being configured to produce identification information for said network at a start of a transmission of the second data bursts;

said first data burst and groups of the second data bursts being transmitted alternately; and

a device for producing a guard time interval between the data bursts.

Claim 32 (new): The data transmission system of claim 1, wherein the time slot of one of the first data bursts corresponds to an integer multiple N of the time slot of one of the second data bursts, N being equal to the number of mobile stations.